CLAIMS

What is claimed is:

1. A cartridge comprising:

a housing adapted to dock with a storage drive;

a storage media mounted in the housing;

a receptacle in the housing, wherein the receptacle is adapted to removably hold an auxiliary memory element; and

an optical interface adapted to provide a data path between the auxiliary memory element and the storage drive.

2. The cartridge of claim 1, wherein the storage media includes a magnetic tape rotatably mounted in the housing.

3. The cartridge of claim 1, further comprising an aperture in the housing positioned to provide access to the receptacle and adapted to allow insertion and removal of the auxiliary memory element.

4. The cartridge of claim 1, further comprising the auxiliary memory element.

5. The cartridge of claim 4, wherein the auxiliary memory element is removable.

6. The cartridge of claim 4, wherein the auxiliary memory element provides memory adapted to store a plurality of thumbnail images.

7. The cartridge of claim 4, wherein the auxiliary memory element provides non-volatile storage.

8. The cartridge of claim 4, wherein the auxiliary memory element comprises a solid-state memory.

9. The cartridge of claim 4, wherein the auxiliary memory element comprises a flash memory.

10. The cartridge of claim 4, wherein the auxiliary memory element comprises a hard drive.

11. The cartridge of claim 1, wherein the auxiliary memory element provides at least 1 MB of memory storage.

12. The cartridge of claim 1, wherein the auxiliary memory element provides at least 10 MB of memory storage.

13. The cartridge of claim 1, wherein the auxiliary memory element provides at least 100 MB of memory storage.

14. The cartridge of claim 1, wherein the auxiliary memory element provides at least 1 GB of memory storage.

15. The cartridge of claim 1, further comprising a second receptacle in the housing adapted to removably hold a second auxiliary memory element.

16. The cartridge of claim 1, further comprising an electrically conductive interface adapted to provide power to the auxiliary memory element.

17. The cartridge of claim 1, wherein the optical interface includes an optical fiber.

18. The cartridge of claim 1, wherein the optical interface includes an infrared interface.

19. A tape cartridge comprising:

a housing;

a magnetic tape rotatably mounted in the housing;

a receptacle in the housing, wherein the receptacle is adapted to removably hold an auxiliary memory element providing at least 1 MB of data storage; and

a physical interface adapted to provide a contact path between the auxiliary memory element and a tape drive.

20. The tape cartridge of claim 19, wherein the physical interface comprises:

a first electrically conductive interface adapted to provide a data path between the auxiliary memory element and the tape drive; and

a second electrically conductive interface adapted to provide power to the auxiliary memory element.

21. A peripheral memory device comprising:

a housing adapted to removably dock with a drive;

a first memory storage media in the housing, wherein the first memory storage media provides primary memory;

a receptacle adapted to removably receive an auxiliary memory element providing secondary memory;

an aperture in the housing adapted to provide a path for inserting and extracting the auxiliary memory element; and

an optical interface adapted to provide a data communication path between the auxiliary memory element and the drive.

22. The peripheral memory device of claim 21, further comprising the auxiliary memory element.

23. The peripheral memory device of claim 21, wherein the first memory storage media is a hard drive.

24. The peripheral memory device of claim 21, wherein the first memory storage media is a two-reel tape cassette.

25. A memory storage system comprising:

a cartridge having

a housing;

a primary memory mounted in the housing;

a receptacle in the housing, wherein the receptacle is adapted to removably hold a removable memory element containing at least 1 MB of data storage;

a drive adapted to removably hold the cartridge; and

a data communications path between the removable memory element and the drive.

26. The memory storage system of claim 25, further comprising the removable memory element.

27. The memory storage system of claim 25, wherein the data communications path comprises an optical fiber interface.

28. A method of writing data to a tape cartridge having a tape media and an auxiliary memory element, the method comprising:

writing information to the tape media;

transforming the information to transformed data, wherein the transformed data occupies less data storage than the information; and

writing the transformed data through an optical interface to the auxiliary memory element.

29. The method of claim 28, wherein:

the act of writing information comprises writing an image to the tape media; and

the act of writing the transformed data comprises writing a thumbnail image of the image to the auxiliary memory element.

30. The method of claim 28, wherein:

the act of writing information comprises writing a video file to the tape media; and

the act of writing the transformed data comprises writing one or more images representative of the video file to the auxiliary memory element.

31. The method of claim 28, further comprising:

writing encryption information to the auxiliary memory element; and

reading encryption information from the auxiliary memory element.

32. The method of claim 28, further comprising:

writing access permission information to the auxiliary memory element; and

reading access permission information from the auxiliary memory element.

33. A method of using a cipher key to process data between a host and a tape cartridge having a tape media and at least one auxiliary memory element, the method comprising:

reading the cipher key from the auxiliary memory element;

reading data from a source;

processing the data with the cipher key; and

writing the processed data to a depository.

34. The method of transferring encrypted data of claim 33, wherein the act of reading the cipher key from the auxiliary memory element includes reading a first part of the cipher key from a first auxiliary memory element and reading a second part of the cipher key from a second auxiliary memory element in the tape cartridge.

35. The method of using the cipher key of claim 33, wherein the source is the host and the depository is the tape media, and wherein the act of processing the data includes encrypting the data from the host to create the processed data.

36. The method of using the cipher key of claim 33, wherein the source is the tape media and the depository is the host, and wherein the act of processing the data includes decrypting the data from the tape media to create the processed data.

37. A method for a drive to initialize a cartridge without instructions from a host, wherein the cartridge has a storage media and an auxiliary memory element, the method comprising:

providing a drive coupled to the host;

inserting the cartridge into the drive;

detecting the cartridge in the drive;

detecting the auxiliary memory element in the cartridge; and

transferring data between the auxiliary memory element and the storage media.

38. The method of claim 37, wherein the act of transferring data comprises:

reading data from the auxiliary memory element; and

writing the data to the storage media.

39. The method of claim 37, wherein the act of transferring data comprises:

reading data from the storage media; and

writing the data to the auxiliary memory element.

40. A cartridge having an optical interface comprising:

an insulator;

a first electrically conductor and a second electrical conductor, wherein the conductors are electrically isolated by the insulator and adapted to provide power; and

an optical interface adapted to provide a data path.

41. The cartridge of claim 40, wherein the optical interface includes an infrared transceiver.

42. The cartridge of claim 40, wherein the optical interface includes an optical fiber core encircled by the first and second electrical conductors.

43. A drive comprising:

a receptacle, wherein the receptacle is adapted to removably hold a cartridge having a storage media and one or more auxiliary memory elements;

a first data interface to read data from and write data to the storage media;

a second data interface to read data from and write data to the one or more auxiliary memory elements, wherein the second data interface is an optical interface;

circuitry to detect a presence of the one or more auxiliary memory elements.